Disorders

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Invasive trichosporonosis is a rare fungal infection, but this disease has recently increasingly been recognized in patients with hematological disorders. However, little is known about the clinical characteristics of this infectious complication. We evaluated consecutive trichosporon septicemia in 20 patients with hematological disorders at the Mie University Hospital and related hospitals for 5 years between January 2003 and December 2007. All patients were male and age ranged 23—85 years (mean, 60.3). Underlining diseases are acute myelogenous leukemia (AML) in 18, macroglobulinemia in one and aplastic anemia in one. All had a neutrophil count < 500 / μl before the diagnosis of septicemia. Seventeen patients developed the sepsis after intensive chemotherapies, one during steroid treatment and two during observation. No patients examined had positive surveillance cultures for trichosporon. Nineteen patients showed breakthrough septicemia during the use of anti-fungal agents such as micafungin (MCFG) in 17, fluconazole (FLCZ) in 5, itraconazole in one and amphotericin-B (AMPH-B) in 3. Only 4 patients, who had an increase of neutrophil > 500 / μl, recovered from this infection. Among them, two were treated with AMPH-B, FLCZ and miconazole, one with AMPH-B and FLCZ, and one with voriconazole only. We should pay attention to an occurrence of breakthrough trichosporonemia when we use MCFG as an empirical anti-fungal therapy for male patients with hematological disorders and neutropenia. We need to develop an effective strategy to treat this fungal infection because of rapid onset and high mortality.

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45.003

Occurrence and Etiology of Fungal Rhino-Sinusitis in a New Delhi Teaching Hospital

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Fungal rhinosinusitis is an increasingly important clinical entity with a world-wide distribution. However, there is paucity of information on its occurrence in Delhi and many other parts of India.

Aim: The study aimed at probing the occurrence and fungal etiology of rhino-sinusitis in Delhi area.

ment, Lady Hardinge Medical College, New Delhi, during July 2006 to September 2007. Endoscopically removed sinus mucosa obtained from patients were investigated for fungal etiology in the Medical Mycology, V. P. Chest Institute, Delhi, by direct microscopy and fungal culture. One half of each specimen was fixed in formal saline for histopathologic examination and the other half processed for mycological investigations. Based on histopathologic observations, the specimens were categorized as follows: Group I comprised specimens showing presence of mucin infiltrated with hyphae suggestive of allergic fungal sinusitis (AFRS); Group II had fungal hyphae without mucin suggestive of fungal ball; Group III had mucin negative for fungal elements suggestive of eosinophilic mucin rhinosinusitis, and Group IV showing neither hyphae nor mucin indicating non-mycotic etiology.

Results: Fifty cases of CRS investigated, 23 (46%) had demonstrable fungal etiology. This included 13 cases (26%) classified as AFRS and 10 (20%) as fungal ball. Eight of the cases in AFRS group were confirmed by isolation of fungus in culture. *Aspergillus flavus* was the etiologic agent in 7 of these cases whereas it was *A. fumigatus* in a solitary case. In the fungal ball group, 7 cases were diagnosed by demonstration of fungus in histopathologic examination and 3 by direct microscopy of KOH mounts. Only 5 of the fungal ball cases were culture positive, the etiologic agent being *A. flavus* in 4 cases and an unidentified *Aspergillus* in a solitary case.

Conclusion: Aspergillus flavus is the predominant etiologic agent of fungal rhino-sinusitis in the Union Territory of Delhi. We believe that the disease is being under-diagnosed and under-reported in many parts of India due to inadequate awareness or lack of mycological diagnostic facilities.

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Fluconazole Susceptibility and Genotypic Analysis of Candida albicans from Clinical Sources in Nairobi, Kenya

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Background: The expanding population of HIV/AIDS has led to an increase in individuals at risk of contracting opportunistic fungal infection particularly Candidiasis. Studies have shown that there is a correlation between genotype and antifungal susceptibility in Candida albicans. While fluconazole resistance and unusual genotypic group of Candida albicans has been reported elsewhere, no genotypic studies have been conducted in Kenya.

Methods: We genotyped 92 Candida isolates from clinical sources and determined fluconazole susceptibility using procedures described in Clinical Laboratory Standard Institute (CLSI) M27-A2 document. The isolates were recovered from swabs (wound, mouth, HVS), urine, blood, aspirates and sputum specimens in opportunistic infection study in Nairobi, Kenya in 2006. Genotypic analyses were done with primers

CA-INT-L and CA-INT-R sequences that span the transposable intron in 25SrDNA.

Results/Discussion: Fluconazole susceptibility (MIC $\leq$8 μg/ml) was 52/92(56.5%) while Fluconazole susceptible dose dependant (S-DD) (MIC 16—32 μg/ml) was 28/92(30.5%). There were 12/92(13.0%) isolates with MIC $\geq$ 64 μg/ml to fluconazole. The MIC90 and MIC50 of the isolates were 16 and 8 μg/ml, respectively. Most of the isolates were susceptible to amphotericin B with > 90% of the isolates with MIC of $\leq$ 0.25 μg/ml and only two isolates with MIC $\geq$1 μg/ml. Candida albicans genotype A, B and C were identified with genotype A being the most (60%) predominant. Due to life long fluconazole maintenance therapy in HIV/AIDS, there is need for constant surveillance for emerging azoles resistance and strengthening technical and infrastructural capabilities for diagnosis and research in HIV/AIDS associated opportunistic infections.

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Fungemia in Non-HIV-infected Patients: A 5-Year Review

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Objectives: To investigate the incidence, risk factors, causative fungi and outcomes of fungemia in adult, non-HIV-infected patients

Design: We studied 147 episodes of fungemia due to *Candida* spp., *Torulopsis* spp., and Trichosporon spp. in adult patients admitted to a university hospital in Northeast Thailand between 1999 and 2003.

Results: The overall incidence of fungemia was 14.1 per 10 000 hospital admissions. Candida was the most common isolation (126 episodes; 85.7%) with non-albicans candida accounting for 60.5%. The major non-albicans candida isolations were *C. parapsilosis* and *C. tropicalis*. Fungemia caused by Trichosporon and Torulopsis accounted for 14.3% of the cases but their clinical features could not be distinguished from fungemia due to Candida. The overall in-hospital mortality rate was 56.1%. The independent factors related to the mortality outcome were high APACHE II score (OR 1.099 per 1-point increments; 95%CI 1.004—1.204) and assisted ventilation (OR 4.03; 95%CI 1.21—13.41).

Conclusions: Candidemia, especially non-albicans candida, was an important nosocomial infection in this tertiary hospital in Northeast Thailand. The mortality rate was high, particularly in critically-ill patients. Rapid diagnosis and early treatment are therefore important challenges to improving clinical outcomes.

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Rhino-Facial Entomophthoromycosis Due to Conidiobolus Coronatus

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Conidiobolomycosis or rhinoentomophthoromycosis is caused by Zygomycetes of the order Entomophthorales. Conidiobolus coronatus infection is an unusual fungal infection. Conidiobolus is found worldwide in soils and plants debris, but occurs at higher concentrations in warm countries, mainly in Africa and India, during the rainy season. This fungus can infect immunocompetent mammals, including humans. The mode of transmission is probably inhalation of fungal spores, which implant in nasal mucosa and cause an orofacial granulomatosis. The differential diagnosis of facial swelling should always include testing for fungal infections. This clinical case reports on a 29-year-old male patient, previously healthy, coming from Guinea Bissau to Portugal, to investigate facial swelling, with the diagnosis hypothesis of brain cancer, which was later excluded. Two years previously, the patient had presented facial swelling and solution in palate. First, he was treated with steroids but showed no improvement. Diagnosis was severely delayed, because the first biopsies were inconclusive: no agent was detected except Mycobacterium tuberculosis. The patient started treatment, however facial swelling worsened, with occlusion of the eyes and mouth. More biopsies were performed and only surgical management allowed us to obtain samples of nasal tissues, in which Conidiobolus coronatus was found. Following the diagnosis of orofacial conidiobolomycosis, treatment with fluconazole, saturated solution of iodide and trimetropim sulphametoxazol, was started with clinical improvement. With the discussion of this clinical case, we aim to alert practitioners to the existence of this kind of unusual fungal infection in immunocompetent patients and for the difficulty in getting the right samples to permit diagnosis.

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Monitoring on Antifungal Resistance from Clinical Candida Species by E-Test

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Background: Although there has been a significant increase in the number of reported infections caused by yeasts of the genus *Candida*(C), *Candida albicans* is the most frequent isolated *Candida* species. The aim of this study was molecular identification of *C. dubliniensis* from *C. albicans* suspension yeasts, and evaluation the in vitro activity of fluconazole, amphotericin B, ketoconazole, itraconazole, and voriconazole against the isolates.

Methods: From October 2003 to March 2007, the clinical samples, which were sent to Clinical Microbiological Research Center, Nemazi Hospital, Shiraz, Iran were ana-